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RELATIONSHIP OF THE AMERICAN WHITE-FRONTED OWL.

BY ROBERT RIDGWAY.

I wish to call the attention of ornithologists to a paper recently published in the London "Ibis" (vol. ii, January, 1872), upon the relationship of the North American White-fronted Owl, known as "*Nyctale albifrons* Shaw," or "*N. Kirtlandii* Hoy." The author of the paper in question, Mr. D. G. Elliot, refers that bird to the *N. Tengmalmi* Gmel., of Europe, with which species he also considers our *N. Richardsoni* Bonap., to be identical. That both these opinions are erroneous, I purpose showing in the following remarks:

The little owl above mentioned, is a bird identical in all the details of form and size with the *N. Acadica* Gmel., an exclusively North American form, which is scarcely more than half the size of the *N. Tengmalmi*, and cannot, by any means, be referred to the latter species. The birds which Mr. Elliot supposes to be identical with "*N. albifrons*" are merely the young of *N. Tengmalmi*, in a plumage analogous to that of the small North American species, but resembling the latter no further. Mr. Elliot is by no means the first to notice this plumage, for it has been long known to European ornithologists, and its relations correctly understood (see Naumann "Die Vögel Deutschlands," i, p. 500, pl. 48, figs. 2 and 3—where both the adult and young plumages are illustrated). Neither do I claim to be the first to refer the "*N. albifrons*" to the *N. Acadica*, as being its young stage, for Strickland in "Ornithological Synonymes" (i, 1855, p. 177) places the two together.

Being aware of the differences between the adult and young plumages of the *N. Tengmalmi*, and seeing a direct analogy in the characters of the *N. Acadica* and "*N. albifrons*" I suspected a similar relation between these two small North American forms; and in the course of my investigations of the North American Strigidae in the collection of the Smithsonian Institution I found other reasons for considering them old and young of one species. These reasons I present as follows:—

1st. All specimens examined, of *N. albifrons* (including Hoy's

type of *N. Kirtlandii*) are young birds, as is unmistakably apparent from the texture of the plumage.

2nd. All specimens examined of the *N. Acadica*, are adults; I have seen no description of the young.

3rd. The geographical distribution, the size and proportions, the pattern of coloration (except that of the head and body, which in all owls is more or less different in the young and adult stages) and the shades of color on the general upper plumage, are the same in both. The white "scalloping" on the outer web of the alula, the number of white spots on the primaries and the precise number and position of the white bars on the tail, are features common to the two.

4th. The most extreme example of "*albifrons*" has the facial circle uniform brown, like the neck, has no spots on the forehead, and the face is entirely uniform dark brown; but—

5th. Three out of the four specimens in the collection have the facial circle composed of white and brown streaks (*adult feathers*) precisely as in *Acadica*, and the forehead similarly streaked (*with adult feathers*). Two of these have new feathers appearing upon the sides of the breast (beneath the brown patch), as well as upon the face; *these new feathers are, in the most minute respects, like common (adult) dress of N. Acadica.*

The above facts point conclusively to the identity of the *Nyctale* "*albifrons*" and *N. Acadica*. This species is easily distinguishable from the *N. Tengmalmi* which belongs to both continents, though the North American and European specimens are distinguishable, and, therefore, should be recognized as geographical races.

I give below a brief synopsis of the two species, and the principal list of synonymes belonging to each:—

DIFFERENTIAL CHARACTERS OF NYCTALE.

Tengmalmi and *Acadica*.

COMMON CHARACTERS.—Tarsus longer than middle toe; tail slightly rounded, or nearly square: five outer primaries emarginated on inner webs, their ends broad and bowed; 3d quill longest. Upper parts generally chocolate-brown, more or less spotted with white, the tail having distant transverse narrow bars of the same. *Adult*: Facial circle and forehead variegated with white; eyebrows and face grayish white; lower parts white with longitudinal spots, or stripes, of chocolate brown. *Young*: Facial circle and forehead plain blackish brown; eyebrows pure unvariegated, white; face plain dusky; lower parts without markings; the breast plain chocolate brown; the abdomen, etc., plain ochraceous.

A.—Nostril sunken, opening laterally; elongate oval, and obliquely vertical. Cere not inflated. Tail more than half the wing. Bill yellow.

1. N. TENGMALMI.—Wing about 7.20; tail 4.50.

a. Legs white, scarcely variegated; lower tail coverts with only narrow shaft streaks of brown. (Maximum amount of white, the spots of this color much extended, on the scapulars even largely predominating over the brown.) *Hab.* The Palearctic Region (Europe, Liberia and Northern Africa.) Var. *Tengmalmi*.*

b. Legs ochraceous, thickly spotted; lower tail coverts with broad medial stripes of brown. (Minimum amount of white, and excess of darker colors; the latter not only deeper in tint, but occupying larger areas. The difference readily appreciable on comparison.) *Hab.* Northern portion of the Nearctic Region (Arctic America south to the northern border of the U. S.). Var. *Richardsoni*.†

B.—Nostril prominent, opening anteriorly; nearly circular. Cere somewhat inflated. Tail not more than half the wing (rather less). Bill black.

2. N. ACADICA.‡—Wing 5.25 to 5.80; tail 2.60.—*Hab.* Cold temperate portions of Nearctic Region (Southern British America and Northern U. S. from the Atlantic to the Pacific on the mountain ranges, southward nearly to the southern borders of the U. S., and into Mts. of Mexico. Oaxaca, *Scl. P. Z. S.* 1858, 295).

* NYCTALE TENGMALMI.

Strix Tengmalmi GMEL., S. N. p. 291, 1789 (et Auct. var.).—*Nyctale Tengmalmi* BONAP. et Auct.—*Noctua Tengmalmi* CUV., et Auct.—*Athene Tengmalmi* BOIE.—*Ulua Tengmalmi* BONAP. et Auct.—*Scotophilus Tengmalmi* SWAINS.—*Strix dasypus* BECHST. (1791) et Auct.—*Nyctale dasypus* GRAY.—*Strix passerina* A. MEYER (1794).—PALLAS.—*Nyctale planiceps* BREHM (1831).—*Nyctale pinetorum* BREHM (1831).—*Nyctale abietum* BREHM (1831).—*Nyctale funerea* BONAP. (1842). (Not of LINN., 1761, which is *Surnia ulula*).—*Nyctale Kirtlandi* ELLIOT, Ibis, II, Jan., 1872, p. 48. (Not of HOY!)

† NYCTALE TENGMALMI var. RICHARDSONI.

Nyctale Richardsoni BONAP. Ear. and N. Am. B., p. 7; 1838, et Auct.

‡ NYCTALE ACADICA.

Strix Acadica GMEL. Syst. Nat. p. 296, 1789.—DAUD. N. Orn., II, 206, 1800.—VIEILL. Ois. Am. Sept., I, 49, 1807.—AUD. B. Am. pl. 199, 1831; Orn. Blog. V, 397.—RICH. and SWAINS., F. B. A., II, 97, 1831.—BONAP. Ann. Lyc. N. Y., II, pp. 38, 436; Isis, 1832, p. 1140.—JARD. (Mis.) Am. Orn. II, 66.—NAUM. Nat. Vog. Deutschl. ed. nov. I, 434, pl. 43, figs. 1 and 2.—PEAB. B. Mass., p. 90.—NUTT. Man. p. 137, 1833.—*Nyctale Acadica* BONAP. List. p. 7, 1838; Consp. Av. p. 44.—GRAY, Gen. B. fol. App. p. 3, 1844.—KAUP. Monog. Strig. Crut. Orn. 1852, p. 104.—STRICKL. Orn. Syn. I, 176, 1855.—NEWB. P. R. R. Rept. VI, 77, 1857.—CASS. B. N. Am. 1858, 58.—COOP. & SUCK. P. R. R. Rept. XII, ii, 156, 1860.—COUES Prod. B. Ariz. 14, 1866.—GRAY Hand List I, 1869, 51.—LORD Pr. R. A. I, IV, iii (Brit. Columb.).—*Scotophilus Acadicus* SWAINS. Clasif. B. II, 217, 1837.—*Strix passerina* PENN. Arct. Zool. p. 236, sp. 126, 1783.—FORSK., Phil. Trans. LXII, 385.—WILS. Am. Orn. pl. 34, f. 1, 1808. *Ulua passerina* JAMES. (Wils.) Am. Orn. I, 109, 1831.—*Strix Acadensis* LATH. Ind. Orn. p. 65, 1790.—*Strix albifrons* SHAW. Nat. Misc. V, pl. 171, 1794.—*Strix passerina* BRET. Zool. p. 236, sp. 126, 1783.—*Nyctale albifrons* VIEILL. Ois. Am. Sept. I, 54, 1807.—*Scops albifrons* STEPH. Zool. XIII, ii, 51.—*Nyctale albifrons* CASS. B. Cal. & Tex. 187, 1854.—BONAP. Consp. Av. p. 54.—CASS. Birds N. Am. 1858, 57.—*Strix frontalis* LIGHT. Ath. Ak. Berl. 1838, 430.—GRAY Hand List I, 52, 1863.—*Nyctale Kirtlandi* HOY, Proc. Ac. Nat. Sc. Phil. VI, 210; 1852.—*S. phalacroides* DAUD. Tr. Orn. II, 206, 1800.—LATH. Ind. Orn. Supp. p. 16, 1802; Syn. Supp. II, 66, Gen. Hist. I, 372, 1828.—*Athene phalacroides* GRAY. Gen. B. fol. sp. 43, 1844.—*Athene Wilsoni* BRET. Isis, 1828, 315.